

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

60. (currently amended) A method of purifying heat shock protein [[-]]70-peptide complexes from a cell comprising:
- (a) homogenizing the cell with a hypotonic buffer solution to produce a cell lysate;
 - (b) centrifuging the cell lysate to obtain a supernatant;
 - (c) running the supernatant over an ADP-agarose column;
 - (d) washing the ADP-agarose column with a buffer containing ADP; and
 - (e) collecting the heat shock protein 70-peptide complexes.
61. (currently amended) A method of purifying heat shock protein [[-]]70-peptide complexes comprising:
- (a) contacting a sample containing cellular proteins with a nonhydrolyzable analog of ATP affixed to a solid substrate under conditions such that heat shock protein 70 in the sample can bind to the nonhydrolyzable analog of ATP; and
 - (b) eluting the heat shock protein 70 bound to the nonhydrolyzable analog of ATP in step (a).
62. (currently amended) A method for purifying heat shock protein 70 complexes comprising the steps of:
- adding a solution containing [[a]] heat shock protein 70 ~~complex~~ complexes comprising a heat shock protein 70 associated with at least one member of the group consisting of peptides and proteins, to an ADP matrix column containing an ADP matrix to bind the heat shock protein 70 complexes to the ADP matrix; and
- adding a buffer containing ADP to the column to remove the heat shock protein 70 complexes in an elution product.
63. (previously presented) The method of Claim 62 wherein the solution containing heat shock protein 70 complexes comprises a cell lysate.

64. (previously presented) The method of Claim 62 wherein the heat shock protein 70 complexes comprise complexes in which the heat shock protein 70 comprises one of the group consisting of DnaK proteins from prokaryotes; Ssa, Ssb, and Ssc from yeast; hsp70, Grp75 and BiP(Grp78) from eukaryotes.

65. (previously presented) A method for synthesizing heat shock protein 70 complexes, comprising adding a heat shock protein 70 and an antigenic molecule selected from the group consisting of peptides and proteins, to a buffer containing ADP to allow the heat shock protein 70 to bind to the antigenic molecule and ADP to form a heat shock protein 70 complex.

66. (previously presented) The method of Claim 65, wherein the solution containing the heat shock protein 70, antigenic molecule and ADP is incubated at 37° C to induce heat shock protein 70 present in the solution to bind to peptides and proteins present in the solution to form heat shock protein 70 complexes.

67. (previously presented) The method of Claim 65, wherein the heat shock protein 70 comprises one of the group consisting of DnaK proteins from prokaryotes; Ssa, Ssb, and Ssc from yeast; hsp70, Grp75 and BiP(Grp78) from eukaryotes.

68. (currently amended) [[An]] ADP-mammalian heat shock protein 70-antigenic molecule ~~peptide complex~~ complexes in substantially purified form as indicated by apparent homogeneity upon electrophoresis in a polyacrylamide gel, wherein said antigenic molecules (i) are selected from the group consisting of peptides or proteins, and (b) comprise an antigenic peptide or antigenic protein displaying antigenicity of an antigen of a cancer or of an infectious agent.

69. (Canceled)

70. (Canceled)

71. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 68, wherein said ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ comprises a heat shock protein 70-peptide complex are made in vitro.

72. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 71, wherein said ~~heat shock protein 70-peptide complex~~ ~~comprises a~~ mammalian heat shock protein 70 and ~~a peptide~~ said antigenic peptide or antigenic protein are from the same individual.

73. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 71, wherein said mammalian heat shock protein 70-~~peptide complex~~ ~~comprises a heat shock protein 70~~ is from a first individual and ~~a peptide~~ said antigenic peptide or antigenic protein is from a second, different individual.

74. (canceled)

75. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 71, wherein said antigenic peptide or antigenic protein is ~~heat shock protein 70-peptide complex~~ ~~comprises a heat shock protein 70~~ from a first species and ~~a peptide~~ said mammalian heat shock protein 70 is from a second, different species.

76. (currently presented) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 68, wherein the ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~are~~ peptide complex is purified by the steps of:

adding ~~[[a]]~~ said mammalian heat shock protein ~~complex~~ 70-antigenic molecule complexes ~~comprising a heat shock protein 70 associated with a peptide~~ to an ADP matrix column containing an ADP matrix to bind the mammalian heat shock protein 70-antigenic molecule complexes to the ADP matrix; and

adding a buffer containing ADP to the column to remove the ADP-mammalian heat shock protein 70-peptide complexes in an elution product.

77. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~peptide complex~~ of Claim 68, wherein the ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~are~~ peptide complex is synthesized by adding ~~[[a]]~~ said mammalian heat shock protein 70 and ~~a peptide~~ said antigenic molecules to a buffer containing ADP to allow ~~[[the]]~~ said mammalian heat shock protein 70 to bind to ~~[[the]]~~ said

antigenic ~~molecules molecule~~ and ADP to form a said ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~complex~~.

78. (previously presented) The method of claim 62, wherein said member is a peptide.

79. (previously presented) The method of claim 65, wherein the antigenic molecule is a peptide.

80. (previously presented) The method of Claim 65, wherein the antigenic molecule is a peptide, and wherein the solution containing the heat shock protein 70, peptide and ADP is incubated at 37°C to induce heat shock protein 70 present in the solution to bind to the peptide present in the solution to form heat shock protein 70-peptide complexes.

81. (currently amended) The ~~method~~ ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 76, wherein said ~~member is a peptide~~ antigenic molecules are peptides.

82. (currently amended) ~~[[An]]~~ The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein said antigenic molecules are peptides. ~~protein complex in substantially purified form as indicated by apparent homogeneity upon electrophoresis in a polyacrylamide gel.~~

83. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~protein complex~~ of Claim ~~82~~ 71, wherein said antigenic molecules are peptides. ~~heat shock protein 70 comprises one of the group consisting of DnaK proteins from prokaryotes; Ssa, Ssb, and Ssc from yeast; hsp70, Grp75 and BiP(Grp78) from eukaryotes.~~

84. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~protein complex~~ of Claim ~~83~~ 72, wherein said antigenic molecules are peptides. ~~ADP heat shock protein 70 protein complex comprises a heat shock protein70 protein complex made in vitro.~~

85. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~protein complex~~ of Claim [[84]] 73, wherein said antigenic molecules are peptides. ~~heat shock protein 70 protein complex comprises a heat shock protein 70 and a protein from the same individual.~~

86. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~protein complex~~ of Claim [[84]] 75, wherein said antigenic molecules are peptides. ~~heat shock protein 70 protein complex comprises a heat shock protein 70 from a first individual and a protein from a second, different individual.~~

87. (currently amended) The ADP-mammalian heat shock protein 70-antigenic molecule complexes ~~protein complex~~ of Claim [[84]] 77, wherein said antigenic molecules are peptides. ~~heat shock protein 70 protein complex comprises a heat shock protein 70 from a first organism and a protein from a second, different organism.~~

88. (canceled)

89. (previously presented) The method of claim 62, wherein said member is a protein, wherein the heat shock protein 70 complex comprises a heat shock protein 70 associated with a protein, and wherein the heat shock protein 70-protein complex is made in vitro.

90. (currently amended) The method of Claim 60, wherein the heat shock protein 70-peptide complexes comprise complexes in which the heat shock protein 70 is selected from the group consisting of a DnaK protein from a prokaryote; and hsp70(p73), hsc70(p72), and BiP(Grp78) from a eukaryote.

91. (previously presented) The method of Claim 61, wherein the heat shock protein 70 peptide complexes comprise complexes in which the heat shock protein 70 is selected from the group consisting of a DnaK protein from a prokaryote; and hsp70(p73), hsc70(p72), and BiP(Grp78) from a eukaryote.

92. (previously presented) The method of Claim 62 wherein the heat shock protein 70 complexes include complexes in which the heat shock protein 70 comprises one of the group consisting of a DnaK protein from a prokaryote; and hsp70(p73), hsc70(p72), and BiP(Grp78) from a eukaryote.
93. (previously presented) The method of Claim 65, wherein the heat shock protein 70 comprises one of the group consisting of a DnaK protein from a prokaryote; and hsp70(p73), hsc70(p72), and BiP(Grp78) from a eukaryote.
94. (Canceled)
95. (Canceled)
96. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein the antigen is an antigen of an infectious agent selected from the group consisting of a virus, bacterium, fungus, protozoan, and parasite.
97. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 96, wherein the antigen is an antigen of a virus selected from the group consisting of hepatitis type A, hepatitis type B, hepatitis type C, influenza, varicella, adenovirus, herpes simplex type I (HSV-I), herpes simplex type II (HSV-II), rinderpest, rhinovirus, echovirus, rotavirus, respiratory syncytial virus, papilloma virus, papova virus, cytomegalovirus, echinovirus, arbovirus, huntavirus, coxsachie virus, mumps virus, measles virus, rubella virus, polio virus, human immunodeficiency virus type I (HIV-I), and human immunodeficiency virus type II (HIV-II).
98. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 96, wherein the antigen is an antigen of a bacterium selected from the group consisting of mycobacteria rickettsia, mycoplasma, neisseria and legionella.
99. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 96, wherein the antigen is an antigen of a protozoan selected from the group consisting of leishmania, kokzidioa and trypanosome.
100. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 96, wherein the antigen is an antigen of a parasite selected from the group consisting of chlamydia and rickettsia.

101. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein the antigen is a tumor specific or tumor-associated antigen selected from the group consisting of KS 1/4 pan-carcinoma antigen, ovarian carcinoma antigen (CA125), prostatic acid phosphate, prostate specific antigen, melanoma-associated antigen p97, melanoma antigen gp75, high molecular weight melanoma antigen, and prostate specific membrane antigen.

102. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein the antigen is an antigen of a cancer of a human sarcoma or carcinoma selected from the group consisting of: fibrosarcoma, myxosarcoma, liposarcoma, chondrosarcoma, osteogenic sarcoma, chordoma, angiosarcoma, endotheliosarcoma, lymphangiosarcoma, lymphangioendotheliosarcoma, synovioma, mesothelioma, Ewing's tumor, leiomyosarcoma, rhabdomyosarcoma, colon carcinoma, pancreatic cancer, breast cancer, ovarian cancer, prostate cancer, squamous cell carcinoma, basal cell carcinoma, adenocarcinoma, sweat gland carcinoma, sebaceous gland carcinoma, papillary carcinoma, papillary adenocarcinomas, cystadenocarcinoma, medullary carcinoma, bronchogenic carcinoma, renal cell carcinoma, hepatoma, bile duct carcinoma, choriocarcinoma, seminoma, embryonal carcinoma, Wilms' tumor, cervical cancer, testicular tumor, lung carcinoma, small cell lung carcinoma, bladder carcinoma, epithelial carcinoma, glioma, astrocytoma, medulloblastoma, craniopharyngioma, ependymoma, pinealoma, hemangioblastoma, acoustic neuroma, oligodendroglioma, meningioma, melanoma, neuroblastoma, retinoblastoma; leukemias, e.g., acute lymphocytic leukemia and acute myelocytic leukemia (myeloblastic, promyelocytic, myelomonocytic, monocytic and erythroleukemia); chronic leukemia (chronic myelocytic (granulocytic) leukemia and chronic lymphocytic leukemia); and polycythemia vera, lymphoma (Hodgkin's disease and non-Hodgkin's disease), multiple myeloma, Waldenström's macroglobulinemia, and heavy chain disease.

103. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, 71, 72, 73, 75, 76, 77 or 82, wherein said mammalian heat shock protein 70 of said complexes is human heat shock protein 70.

104. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein the complexes further comprise hsp110.

105. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 68, wherein the complexes further comprise hsp90.

106. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 104, wherein the complexes further comprise hsp90.

107. (new) The ADP-mammalian heat shock protein 70-antigenic molecule complexes of claim 104, 105 or 106, wherein said mammalian heat shock protein 70 of said complexes is human heat shock protein 70.

108. (new) A method of purifying heat shock protein 70-peptide complexes comprising:

(a) contacting a sample containing cellular proteins with ADP affixed to a solid substrate under conditions such that heat shock protein 70 in the sample can bind to the ADP; and

(b) eluting the heat shock protein 70 bound to the ADP in step (a).

109. (new) The method of claim 108, wherein the ADP affixed to a solid substrate is ADP-agarose.